

M E M O R A N D U M

February 9, 1976

To: Ron Pine

From: Douglas Houck

Subject: Georgia Pacific Pulp Mill
(Bellingham) Class II Inspection

On October 28, 1975, I met with the following persons:

Warren Mowry - Georgia Pacific Environmental Control Director
Dan Tangerone - EPA Sanitary Engineer

Dan Tangerone was present as part of EPA's program to audit DOE's Class II Inspections. We were given a tour of the plant and its sampling equipment and locations. Due to the extreme difficulty of installing our own sampling equipment it was decided to use Georgia Pacific's. At its pulp mill, Georgia Pacific presently has three different outfalls. Each outfall is sampled and composited separately. During the tour the temperature of the refrigerators was measured, empty containers installed and tape was put around the refrigerators so that it could be determined if the composites had been tampered with.

The flow is measured by a different method for each outfall. The flow from outfall number 003 is computed by Georgia Pacific from their formula using the plant's measured incoming flow and their production rate. In April and May this formula was checked, by measuring the flow rate using a known concentration of copper sulfate. The percent difference between the measured and reported flow rates was only 2 percent. The flow from outfall number 005 is measured by a vortex shedding flowmeter. The accuracy of this type of meter is $\pm 2\%$ of the flow rate. The flow from their clarifier is measured in a pressure conduit by a magnetic flowmeter. These types of meters show good accuracy in the upper half of the meter's rated capability while a significantly lower degree of accuracy is experienced in the lower range of the meter's capacity.

On the 29th I returned to split the composited samples. The following table shows DOE's and Georgia Pacific's results along with their daily maximum and average effluent limitations. The loading limitations of Georgia Pacific's NPDES Permit are given in terms of the sum of all three outfalls. As can be seen from the table Georgia Pacific's pulp mill meets both daily maximum limitations but not the daily average limitation for BOD₅. This does not put the mill out of compliance with their permit as the daily average is defined as the average of the measured values obtained over a calendar month's time.

A close watch of the mill's monthly monitoring reports should be made on their BOD₅ values to see if they are continually exceeding their daily average limitations. They also exceed the effluent limitation of calcium-base Sulfite Waste Liquor (SWL) as determined by the Pearl-Benson Index (PBI) method. Georgia Pacific contends that this method is not applicable to their situation and has devised their own method using ultraviolet light. With this method the mill is well within the permit limitations.

DH:ee

BC: Gary Rothwell

Parameter	Department of Ecology				Georgia Pacific				Total Limitations	
	#003	#005	Clarifier	Total	#003	#005	Clarifier	Total	Daily Max.	Daily Avg.
BOD ₅ (lbs/day)	138,794	18,014	19,709	176,517	136,584	18,014	24,636	179,234	200,000	160,000
T.S.V.S. (lbs/day)	1,856	5,304	8,623	15,783	2,387	7,806	9,327	19,520	40,000	27,000
PBI as 10% solids of SWL (lbs/day)	3,306,310	350,280	480,409	4,136,999	3,553,840	296,237	450,493	4,300,570	(3,600,000)	
Flow (MGD)	---	---	---	---	5.3	12.0	21.1	38.4		
T.S.S. (lbs/day)	2,519	6,405	11,438	20,362	3,182	9,007	11,790	23,979		
SWL, UV (lbs/day)	---	---	---	---	296,153	51,041	36,954	384,148		

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

DATA SUMMARY

ORIGINAL TO:
..G.H.....
COPIES TO:
.....
.....
LAB FILES.....

Source GEORGIA PACIFIC @ B'ham.

Collected By G. Houck

Date Collected 10-28-75

Log Number: 75-5046 47 48 49 50 51 52 53

Station:	CLARIE COMP.	#003 COMP	#005 COMP	#5 10 AM GRAB	6-9P H2O	DAF SAMPLE 5AR RINSE	GP SEWER CONTAINER RINSE	G.P. CL-ALK EFF				
pH												
Turbidity (JTU)												
Conductivity (umhos/cm)@25°C												
COD												
BOD (5 day)	112.	3140	180.									
Total Coliform (Col./100ml)												
Fecal Coliform (Col./100ml)												
NO3-N (Filtered)												
NO2-N (Filtered)												
NH3-N (Unfiltered)												
T. Kjeldahl-N (Unfiltered)												
O-PO4-P (Filtered)												
Total Phos.-P (Unfiltered)												
Total Solids				1478								
Total Non Vol. Solids				546								
Total Suspended Solids	65	57	64	65								
Total Sus. Non Vol. Solids	16	15	11	15								
T.S.V.S.	49	42	53	50								
PBI	2730	74800	3500									
MERCURY	-	-	-	-								

Note: All results are in PPM unless otherwise specified. ND is "None Detected"

Summary By Stephen D. Roll Date 11-13-75